

B2
ind

matched to the header-symbol-sequence signal for filtering the despread-header-symbol-sequence signal [despread-symbol-matched-means output] and for generating a start-data signal in response to the despread-header-symbol-sequence signal matching the frame-impulse response; and

control means, coupled to said symbol-matched means and said code means, [responsive to the start-data signal, for setting said frame-matched means for matching said frame-matched means to a sequence of symbols of a packet-symbol sequence signal, and] responsive to the start-data signal, for setting said symbol-matched means with a replica of a data-chip-sequence signal for matching said symbol-matched means to the data-chip-sequence signal.

B3
cont

5 9. (Once Amended) A method [, using a symbol-matched filter and a frame-matched filter with a spread-spectrum receiver on a received-spread-spectrum signal, the received-spread-spectrum signal having a plurality of packets, with each packet generated from spread-spectrum processing a header-symbol-sequence signal with a chip-sequence signal and from spread-spectrum processing a data-symbol-sequence signal with a data-chip-sequence signal,] for achieving code phase synchronization comprising the steps of:

10 [generating a replica of the chip-sequence signal;
generating, responsive to maximum frame-matched filter output signal, a control signal;

B3
cont.

programming said symbol-matched filter, responsive to the control signal and using the replica of the chip-sequence signal, to set said symbol-matched filter a symbol-impulse response matched to the chip-sequence signal;

despreading, with the symbol-matched filter matched to the chip-sequence signal, a header portion of the packet from the received-spread-spectrum signal as a despread-header-symbol-sequence signal;

filtering, with said frame-matched filter having a frame-impulse response matched to the header-symbol-sequence signal, the despread-header-symbol-sequence signal;

generating from the filtered despread-header-symbol-sequence signal, a data-start signal in response to the despread-header-symbol-sequence signal matching the frame-impulse response of the frame-matched filter; and

despreading, responsive to timing from the data-start signal, with the symbol-matched filter matched to the chip-sequence signal, a data portion of the packet from the received-spread-spectrum signal as a despread-data-symbol-sequence signal]

loading the M spread-spectrum signal samples into the programmable-matched filter;

correlating the M spread-spectrum signal samples against the M local sequence symbols;

generating, responsive to alignment of the spread-spectrum signal samples with the M local sequence symbols, a

B

B3 cont.

40 large information-bearing output at a second clock cycle, the
second clock cycle being later in time than the first clock
cycle;

45 loading, at a third clock cycle, the programmable-
matched filter with a next group of M local sequence symbols,
the third clock cycle being later in time than the second clock
cycle;

receiving a next group of M spread spectrum signal
samples;

correlating the next group of M local sequence symbols
against the next group of M spread spectrum signal samples; and

50 generating, responsive to alignment of the next group
of spread spectrum signal samples with the next group of M local
sequence symbols, a large information-bearing output at a fourth
clock cycle, the fourth clock cycle being later in time than the
third clock cycle.

5 10. (Once Amended) The method as set forth in claim 9,
[with the step of despreading the header portion of the packet
from the received-spread-spectrum signal] further including the
steps of:

[despreading, from the received-spread-spectrum
signal, an in-phase component of the header portion of the
packet as a despread-in-phase component of the despread-header-
symbol-sequence signal; and

despreading, from the received-spread-spectrum signal,

B

B3
md

a quadrature-phase component of the header portion of the packet as a despread-quadrature-phase component of the despread-header-symbol-sequence signal]

15 loading the programmable-matched filter with a next group of M local sequence symbols;

receiving a next group of M spread-spectrum signal samples; and

correlating the next group of M local sequence symbols against the next group of M spread-spectrum signal samples;

20 loading, at a fifth clock cycle, the programmable-matched filter with a third group of M local sequence symbols, the fifth clock cycle being later in time than the fourth clock cycle;

B

25 receiving a third group of M spread spectrum signal samples;

correlating the third group of M local sequence symbols against the third group of M spread spectrum signal samples; and

30 generating, responsive to alignment of the third group of spread spectrum signal samples with the third group of M local sequence symbols, a large information-bearing output at a sixth clock cycle, the sixth clock cycle being later in time than the fifth clock cycle.

Kindly add the following claim:

B3
md
15.20
21. A method, using a symbol-matched filter and a frame-

B3
md

matched filter as part of a spread-spectrum receiver on a received-spread-spectrum signal having a plurality of packets, with each packet of said plurality of packets generated from spread-spectrum processing a header-symbol-sequence signal with a chip-sequence signal and from spread-spectrum processing a data-symbol-sequence signal with the chip-sequence signal, comprising the steps of:

generating a replica of the chip-sequence signal;
filtering, with a symbol-matched filter having a symbol-impulse response set from the replica of the chip-sequence signal, from the received-spread-spectrum signal, a header portion of the packet, to output a despread-header-symbol-sequence signal;

filtering, from the received-spread-spectrum signal, a data portion of the packet to output a despread-data-symbol-sequence signal;

filtering, with a frame-matched filter having a frame-impulse response matched to the header-symbol-sequence signal, the despread-header-symbol-sequence signal;

generating a start-data signal in response to the despread-header-symbol-sequence signal matching the frame-impulse response; and

setting said symbol-matched filter with a replica of a data-chip-sequence signal for matching said symbol-matched filter to the data-chip-sequence signal.--